

Law Enforcement/Fire/EMS Interoperability Survey for the Commonwealth of Virginia

INTRODUCTION:

Providing emergency responders with the ability to communicate with each other at the scene of any emergency incident and giving first responders access to vital information at their fingertips are goals for the Commonwealth of Virginia. The Secure Virginia Panel has established a First Responders Interoperability Working Group in order to evaluate the needs of public safety wireless voice and data communications. Your department/agency has been selected to participate in this survey on the use of wireless communication systems for communicating with other departments and other public safety agencies. Participation is voluntary, and your responses will be kept confidential. The data will be analyzed and compiled in a final report. The attached survey and your responses are protected from release pursuant to a Freedom of Information Act request because the survey and your responses are Confidential Governor's Working Papers (VA Code Section 2.2-3705.A.6) and because the responses may disclose tactics, plans or procedures for responding to terrorist activity (VA Code Section 2.2-3705.A.57). Please ensure that any additional pages included in your response contain the Confidential Governor's Working Papers designation.

DIRECTIONS:

- 1) This questionnaire should be completed by the individual in your department/agency who is most knowledgeable about wireless radio communications with other departments. Assistance by other personnel, if needed, is encouraged. It will take you approximately one half-hour to an hour to complete the questionnaire.
- 2) Read each question carefully.
- 3) Answer where requested by checking the appropriate box. NOTE: Some answers may have more than one response.
- 4) If you wish to expand on the information you are providing, please feel free to make additional comments on the last page of the questionnaire.

If you need assistance or additional information, please contact Christy King at 804/ 371-0220 or Charles Werner at 434/ 970-3240.

Thank you for your participation in this important survey.

DEFINITIONS:

1) Interoperability: Essential communication links within or between public safety and public service communication systems that permit units from two or more different agencies to interact with one another and to exchange information according to a prescribed method in order to achieve predictable results. This may include communication between governmental and non-governmental public safety and public service providers.

2) First Responder: Fire, emergency medical personnel, law enforcement, and other identified entities who, by specialty or profession normally arrive first on the scene of an emergency incident to assess or take action to save lives, protect property, and/or mitigate the situation.

3) Types of Interoperability Responses: Day-to-Day, Mutual Aid, and Tactical Force/Major Event

Day-to-Day Response (e.g., Mode 1, automatic aide, routine structure fire, automobile accident)

- Most often encountered type of interoperability.
- Commonly used in areas of concurrent jurisdiction.
- Commonly used where agencies need to monitor each other's routine traffic.
- If agencies are using different radio bands, may involve the use of multiple radios.
- Communications with other primary response agencies.
- Communications with receiving medical facilities.

Mutual Aid Response (e.g., Mode 2 or 3, railroad derailment, hazardous materials incident, multiple-related disasters)

- Can involve multiple agencies with little opportunity for prior planning.
- Often requires assignment of several to many small groups, each on their own talk group or frequency.
- Once on scene, typically involves the use of portable and mobile radios.

- Tactical Force/Major Event (e.g., Mode 4, extended response/disaster recovery operation or major event)
- Usually involves several levels of government (federal, state, and/or local) operating at an incident site.
 - Typically an opportunity for prior planning exists.
 - Usually involves use of portable and/or covert equipment.
 - Often requires extensive close-range communications.
 - Users may move in and out of infrastructure coverage (metro to rural, in and out of buildings).

4) Channel: a radio pathway consisting of one (simplex) or two (half-duplex or duplex) radio frequencies to transmit and receive information (e.g. simplex uses 1 frequency for both transmit and receive (SIRS 39.54, Statewide EMS 155.205); Half-Duplex/Duplex uses 1 frequency for base transmit and another frequency for mobile transmit and has a Repeater to allow communication to be heard by both mobiles and the dispatcher).

Section I. DESCRIPTIVE INFORMATION

What is the name of your Department/Agency?

Please indicate your department/agency's point of contact in regards to wireless radio communications.

Point of Contact's email address.

Point of Contact's Phone Number. Please use the following format 8045241275

Which category below best describes your department/agency? Fill in ONLY ONE. If you are responsible for Multiple areas please select other.

City Jail
County Jail
Sheriff's Office
Fire Protection District
Volunteer Fire Department
Municipal/City Fire Department
County Fire Department
Fire Marshal
Special Fire Department(e.g. Industrial Fire Brigade, Airport, Harbor)
Private For-Profit Ambulance Provider
Government-Operated EMS Service
Non-Government Operated Provider/EMS Provider
Emergency Management Center
Search and Rescue

Hazardous Materials Response
Police Department
Other

Number of employees in your department/agency. Fill in ALL that apply.

Career (paid)
Volunteer (and/or part-time, paid per call)
Support Staff (e.g. clerical, communications, vehicle maintenance, etc.)

How many calls for service did your department/agency respond to in 2001?

What is the population (approximate) of your locality?

How serious of a problem does in-building coverage pose for your Agency/Department?

What percentage of your calls are mutual aid responses?

%

Which of the following best describe the topography/terrain in which your department/agency operates? Fill in ALL that apply.

Coastal area
Relatively flat
Rolling hills
Mountainous
Heavily Forested

Does your jurisdiction include many high-rise buildings?

Yes
No

How many square miles does your response area cover?

Section II. OPERATIONS

Does your department/agency have at least one radio channel solely designated for communicating with other organizations?

Yes
No

Which of the following best describes your arrangements for dispatch?

Agency/department does its own dispatching
Part of a combined dispatch center
Contracted Service
Commercial Operator
Other

What is the PRIMARY radio language used by your department/agency when communicating with other organizations? Fill in ONLY ONE.

Plain - English
Code System(ten codes, etc.)
Other

What radio frequencies does your department/agency use to communicate with other public safety and/or public service organizations? Fill in ALL that apply.

Does not apply
Low band VHF (25-50 MHz)
High band VHF (150-174 MHz)
Federal band UHF (406-420 MHz)
Low band UHF (450-470 MHz)
Low band UHF TV Sharing (470-512 MHz)
800 MHz (806-869 MHz)
Other

Identify the TYPES of interoperability (see definitions on page 2) your department/agency has experienced during the 2001 calendar year with the following levels of public safety and/or public service organizations.

Federal Level
State Level
Local Level

Has your department/agency signed the Statewide Mutual Aid Agreement? If not, why?

Yes
No
Comments

Rate your department/agency's ABILITY to establish a radio communication link with each of the following levels of public safety and/or public service organizations.

Federal Level
State Level

Local Level

Estimate the total number of public safety and/or public service organizations at each level with which your department/agency requires radio communication.

Federal Level
State Level
Local Level

Do you have a written communication interoperability agreement with any of the organizations you indicated in question #12? If no, skip to question #14. If yes, indicate how many for each level.

Federal Level
State Level
Local Level

How many mutual aid and task force operations (see definitions on page 2) does your department/agency participate in during a typical year?

Mutual Aid
Tactical

What is the MAXIMUM number of organizations your department/agency has had to communicate with during any mutual aid or task force operation?

Mutual Aid
Tactical

Rate the ABILITY of your department/agency's radio system to effectively handle the three types of interoperability as defined on page 2.

Day-to-Day
Mutual Aid
Tactical

Rate your department/agency's OVERALL ABILITY to handle interoperability situations 5 years ago, today, and estimate its ability 5 years into the future.

5 years ago?
Today?
5 years from now?

Based on your department/agency's experience, indicate the severity of each of the following obstacles to interoperability.

Different Bands?
Human and Institutional Limitations?
Different Communication Modes (analog vs. digital)?
Different Communication Modes (conventional vs. trunked)?
Different Coverage Areas?
Limitations of Commerical Services?

Lack of Adequate Planning?
Limitations of Funding?
Political
Turf Issues

To your knowledge, to what extent has the availability of NPSPAC channels (821-869 MHz) alleviated communication interoperability problems in your jurisdiction?

Section III. INFORMATION AND TRAINING

Does your locality use an Incident Management System?

Yes
No

Does your locality use an Unified Command Approach to major emergency events?

Yes
No

When responding to calls or conducting disaster drills does your department/agency use an Incident Command System?

Yes
No

Does your department/agency participate in joint training exercises with other organizations that involve the actual use of communication equipment? If so, in what year was your last joint training exercise?

Yes
No
Year

Regarding the question above, indicate the levels of other organizations that participate in the joint training exercises. Include both government and non-government organizations. Fill in ALL that apply.

Federal Level
State Level
Local Level
Other

How well do you believe your department/agency's training has prepared your staff to handle communication interoperability situations?

Your agency's training has prepared your staff to handle communication interoperability situations

How familiar is your department/agency with the following?

Project 25 Standards?
FCC Refarming efforts?
FCC Frequency Application Process?
FCC Internet Sites?
TIA/EIA-102 Specifications?
FCC Spectrum Allocation (746-806 MHz)?
NPSPAC Regional Planning Process?

Section IV. COMMUNICATION SYSTEMS

Indicate the types of communication equipment used by your department/agency. Fill in ALL that apply.

Hand-held portable radio
Vehicle-mounted mobile radio
Pagers
Citizens band radio
Amateur radio
Telephone line
FAX line
Cellular phone/voice
Cellular FAX
Mobile data terminal (Dumb-Terminal)
Mobile laptop computer
EKG or other Medical Telemetry
Fixed Wing Aircraft Radio
Helicopter Radio
Mobile Satellite Service Radio
Other

Does your department/agency SHARE the infrastructure for its land mobile radio base system with other organizations?

Yes
No

Which of the following best describes your department/agency's communications arrangements?

Independently owned and operated communications center used exclusively by our department.
Part of a communications center that serves several public safety and/or public service organizations in our jurisdiction
Part of a multi-agency, multi-jurisdictional shared communications center
Other

Approximately how old is your CURRENT fixed land mobile radio system (e.g. base, towers, repeaters)?

Approximately how old is your CURRENT Land Mobile radio system (e.g. mobile radios and portable radios)?

Which best describes your PRIMARY land mobile radio system?

Analog
Digital

Does your department/agency use BOTH analog and digital radio systems?

Yes
No

Which best describes your PRIMARY land mobile radio system?

Conventional (not trunked)
Trunked

Identify the radio frequencies/channels your department/agency CURRENTLY uses for VOICE-ONLY communication by indicating the current NUMBER of channels in each band. Fill in ONLY those that apply.

Does not apply
Low band VHF (25-50 MHz)
High band VHF (150-174 MHz)
UHF (406-512 MHz)
800 MHz (806-869 MHz)
Other

Identify the radio frequencies/channels your department/agency CURRENTLY uses for DATA-ONLY communication by indicating the current NUMBER of channels in each band. Fill in ONLY those that apply.

Does not apply
Low band VHF (25-50 MHz)
High band VHF (150-174 MHz)
UHF (406-512 MHz)
800 MHz (806-869 MHz)
Other

Rate the effectiveness of cross patches as a tool for achieving interoperability.

Effectiveness of cross patches

Is a dispatcher REQUIRED to set up and break down the patch?

Yes
No

How serious are the following problems regarding your land-mobile radio system

Not enough channels?
Not enough talk groups?
Dead spots?
Fading?
Frequency Interference?
Static?
Battery problems?
Not enough equipment?
Outdated equipment?
Equipment Size/Weight?
Different Types of Equipment?
Operational Difficulty?
Lack of Unified Incident Mangement?
Incompatibility?
Radio Frequency Overload?
Lack of Training?
Turf Issues?
Funding Limitations?
Topography?
Inadequate in-building coverage?

If you marked "not enough channels" in the previous question as a problem, estimate the number of ADDITIONAL channels your department/agency needs for each of the following.

ADDITIONAL VOICE-ONLY Channels
ADDITIONAL DATA-ONLY Channels
ADDITIONAL ALTERNATE VOICE & DATA Channels

To what extent does the presence of high-rise buildings hinder the effectiveness of your land mobile radio base system?

To what extent does the presence of high-rise buildings hinder the effectiveness of your land mobile radio base system?

List the organizations that you meet with to discuss or resolve interoperability issues.

Indicate ALL services your department/agency USES or PLANS TO USE within the next 5 years. If your department/agency does not use or plan to use ANY of the services, please fill here

Cellular/Voice
Cellular Digital Packet Data (CDPD)
Personal Communications System (PCS)
Specialized Mobile Radio (SMR)
Mobile Satellite System
Global Positioning System (GPS)
Paging
Cellular Switched Data
Local Multi-Point Distribution Service (LMDS)/Multi Point Multi-Channel Distribution Services (MMDS)

None
Other

Does your department/agency use a paging system for emergency alerting of personnel?

Yes
No

Does your department/agency use the Internet for interoperability?

Yes
No

Does your department/agency have essential information that needs to be accessed in real-time by mobile users?

Yes
No

**Does your department/agency use the following external information networks to interoperate with outside organizations?
Fill in ALL that apply.**

CHEMTREC (Hazardous Materials)
Local/Regional Poison Control
Local Area Network (LAN)
Wide Area Network (WAN)
Internet
Other

Does your department/agency have plans to replace or substantially upgrade its land mobile radio system within the next 5 years? If so, in what year?

Yes
No
Year

What is your department/agency's preference for its NEXT land mobile radio system?

Analog
Digital
Don't Know

Does your department/agency plan to use BOTH analog and digital radio systems?

Yes
No
Don't Know

What is your department/agency's preference for its NEXT land mobile radio system?

Conventional (not trunked)
Trunked
Don't Know

Identify the radio frequencies your department/agency needs for VOICE-ONLY communication for its NEXT land mobile radio base system and indicate the TOTAL NUMBER of channels it will need in each band. Fill in ONLY those that apply.

Does not apply
Low band VHF (25-50 MHz)
UHF (406-512 MHz)
800 MHz (806-869 MHz)
Other

Identify the radio frequencies your department/agency needs for ALTERNATE VOICE & DATA communication for its NEXT land mobile radio system and indicate the TOTAL NUMBER of channels it will need in each band. Fill in ONLY those that apply.

Does not apply
Low band VHF (25-50 MHz)
UHF (406-512 MHz)
800 MHz (806-869 MHz)
Other

To what extent will interoperability funding affect your department/agency's ability to upgrade its land mobil radio system?

How does your department/agency plan to fund its next land mobile radio system?

State funding
General fund budget appropriations
Capital improvement budget
Federal Grant Funding
Bond financing
Public Private Partnerships
Fees
Don't Know
Other

How is your department/agency funded?

State
County
Municipal
Independent
District
Donations
Other

What is the TOTAL number of mobile data terminals and/or lap-top computers your department/agency CURRENTLY uses? If none, place a zero (0) next to the corresponding item.

Mobile Data Terminals (Dumb Terminals)

Mobile Laptop Computers

What is the TOTAL number of mobile data terminals and/or lap-top computers your department/agency estimates it WILL USE in the year 2003? If none, place a zero (0) next to the corresponding item.

Mobile Data Terminals (Dumb Terminals)

Mobile Laptop Computers

Regarding mobile data terminals, mobile laptop computers and other data devices identify the types of WIRELESS DATA communication (not voice) your department/agency currently USES and PLANS TO USE within the next 2 years. Fill in yes or no for each type.

Free Text?

Data Base Information?

Still Images (e.g., photos or maps)?

E-mail

Report Writing

Automatic Vehicle Locator (AVL)

Geographic Information Systems (GIS)

How important will interoperability ISSUES be to your department/agency when it purchases its next land mobile radio system?

How likely is it that your department/agency will adopt the Association for Public-Safety Communications Officials (APCO) Project 25 Interoperability Standards for its next land mobile radio system?

Section V ADDITIONAL INFORMATION

As new technologies are introduced and digital communications mature, do you think there should be federal or state mandates with "date-certain" timelines to ensure interoperability? Yes No Please explain your reasons.

Has the lack of wireless communications interoperability ever hampered your ability to respond to a call? Yes/No If yes, briefly describe the situation and adjustments that were made.

What are the wireless communications interoperability issues for your department? How have you solved them?

Does the lack of wireless radio interoperability affect your department/agency's ability to interact with other agencies in surrounding jurisdictions? Yes/No If yes, briefly describe how and adjustments that have been made.

What operational, technological or regulatory issues do you think should be considered in the planning and implementation of a statewide WIRELESS interoperability strategy for public safety and emergency preparedness entities at all levels of federal, state and local government ?